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09/527,194	03/17/2000	G. Alton Waschka	HES-Y-336	3616

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09/05/2003

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EXAMINER

PHU, PHUONG M

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/527,194

Applicant(s)

WASCHKA ET AL.

Examiner

Phuong Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 7/7/03.

Oath/Declaration

2. It does not identify the mailing or post office address of each inventor. A mailing or post office address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing or post office address should include the ZIP Code designation. The mailing or post office address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the chirp signal" on line 4. It is unclear whether this limitation is referred to "first chirp signal" on line 2.

Claim 12 recites the limitation "the predetermined amount of time" on line 8. This limitation is lack of antecedent basis.

Claims depended on claims 8 or 12 are therefore also rejected.

Claim 17 recites the limitation "the chirp signal" on line 5. It is unclear whether this limitation is referred to "chirp signals of a first slope" on lines 2-3 or "chirp signal of a second slope" on line 4.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Degura et al (5,105,294), prior art of record.

As per claim 1, see figures 2B, 2C, 3B, 3C, 12 and 13, and col. 12, line 27 to col. 15, line 30 and col. 15, lines 60-68, Degura et al discloses a method for discriminating between plural types of transmitters, corresponding to transmitter paths (41, 42, 43), (41, 42, 45), and (41, 42, 47) for receiving signals (1N-1), (1N-2) and (1N-n), respectively (see figure 12), characterized by chirp conversions (43), (45) and (47), respectively, for transmitting chirp signals of different slopes (44), (46) and (48), respectively, (inherently within a same frequency operating range of means (49)), wherein the method/system (see figure 13) comprises:

step (53) for receiving a chirp signal;

step (54, 56, 58) for detecting the slope of the received signal wherein the detection includes chirp conversion means (54), (56) and (58) having reverse slopes corresponding to the conversions (43), (45) and (47), respectively; for instance, means (54) would output an output wave shape (see figure 3E) if means (54) detects a signal having slope (44), and so on

step (54, 56, 58) for determining the transmitter type (transmitter path) of the received signal, based on the detection of slope of the received signal, for further recovering the signal (OUT-1, OUT-2 or OUT-N) which is transmitted by said transmitted path.

As per claim 2, Degura et al discloses step/means (49, 50) for asynchronously transmitting chirp signals in a same place (see figure 12).

As per claims 3-5, Degura et al discloses that the transmitting type is determined as a function of magnitude and polarity of the detected chirp slope (see figure 13).

As per claim 6, see figures 2B, 2C, 3B, 3C, 12 and 13, and col. 12, line 27 to col. 15, line 30 and col. 15, lines 60-68, Degura et al discloses a method for discriminating between 2 types of transmitters, corresponding to transmitter paths (41, 42, 43) and (41, 42, 47) for receiving signals (1N-1) and (1N-n), respectively (see figure 12), characterized by chirp conversions (43) and (47), respectively, for transmitting chirp signals of opposite slopes (44) and (48), respectively, (inherently within a same frequency operating range of means (49)), wherein the method/system (see figure 13) comprises:

step (53) for receiving a chirp signal;

step (54, 58) for detecting the slope of the received signal wherein the detection includes chirp conversion means (54) and (58) having reverse slopes corresponding to the conversions (43) and (47), respectively; for instance, means (54) would output an output wave shape (see figure 3E) if means (54) detects a signal having slope (44), and so on.

As per claim 7, Degura et al discloses step (49, 50) for asynchronously transmitting chirp signals of opposite slopes outputted from means (43, 47) (see figure 12).

As per claims 17 and 18, see figures 2B, 2C, 3B, 3C, 12 and 13, and col. 12, line 27 to col. 15, line 30 and col. 15, lines 60-68, Degura et al discloses a system (figures 12 and 13) having a first type of transmitting and receiving paths (41, 42, 43) and (54, 60, 61) respectively for transmitting and receiving a first chirp signal of a first predetermined slope (44),; and having

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a second type of transmitting and receiving paths (41, 42, 47) and (58, 60, 61) or paths (41, 42, 45) and (56, 60, 61) for transmitting and receiving a second chirp signal having a different slope (48) or (46) from the first predetermined slope, in the same place, wherein information "digital signal" inputted to terminal (1N-1) is encoded based on duration (T) of the first chirp signal in such a way that the information is encoded by the first chirp signal which is characterized by its duration (T), bandwidth (B) and slope (see col. 13, line 54 to col. 14, line 2).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Degura et al.

As per claims 8 and 12, see figures 2B, 2C, 3B, 3C, 12 and 13, and col. 12, line 27 to col. 15, line 30 and col. 15, lines 60-68, Degura et al discloses a method and associated system (figures 12 and 13) having paths (41, 42, 43, 49, 50) and (54, 60, 61) respectively for transmitting and receiving a first chirp signal of a first predetermined slope (44), the first predetermined slope continuously increasing in frequency within a first predetermined frequency band (B) within the frequency operating band of means (49) during a predetermined amount of time (T); and having paths (41, 42, 47, 49, 50) and (58, 60, 61) or paths (41, 42, 45, 49, 50) and (56, 60, 61) for transmitting and receiving a second chirp signal having a different slope (48) or (46) from the first predetermined slope over the second predetermined frequency band within the frequency operating band of means (49) in the same place, wherein information "digital

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signal" inputted to terminal (1N-1) is encoded based on duration (T) of the first chirp signal in such a way that the information is encoded by the first chirp signal which is characterized by its duration (T), bandwidth (B) and slope (see col. 13, line 54 to col. 14, line 2).

Degura et al is silent about whether the first predetermined frequency band is the same as the second predetermined frequency band. However, as an application, it would have been obvious that one skilled in the art, based on his system specification, could implement Degura et al in such a way that the first predetermined frequency band is the same as or different from the second predetermined frequency band as long as they are within the frequency operating band of means (49) as required. Further, with the implementation such that the first frequency band is the same as the second frequency band, the data capacity of the system inherently is significantly increased without increasing the first predetermined frequency band and the frequency operating band of means (49).

As per claim 9, as applied to claim 8, in Degura et al, the different slope (48) inherently must continuously decreasing in frequency over the first predetermined band (B) during the predetermined time (T) in order to obtain, for instance, the conversion gain (BT) for means (58) on the receiving path (58, 60, 61) (see col. 15, lines 1-4).

As per claims 10 and 14, Degura et al disclose that the slope (44) of the second chirp signal opposes the first predetermined slope (48) (see figure 12).

As per claims 11 and 13, Degura et al discloses that the first chirp and the second chirp signals are being asynchronously transmitted (see figure 12).

As per claim 15, Degura et al discloses that the slope of the second chirp signal (46) having the same polarity and different magnitude from the first predetermined slope (44) (see figure 12).

As per claim 16, Degura et al discloses that the slope of the second chirp signal (48) having the different polarity and different magnitude from the first predetermined slope (44) (see figure 12).

Response to Arguments

9. Applicant's arguments filed on 7/7/03 have been fully considered but they are not persuasive.

Regarding to the objection on Oath/Declaration, the applicant argues since the post office address is included on the residence section of the Oath/Declaration, therefore a new Oath/Declaration will not be submitted. The examiner respectfully disagrees. Since the post office address is an address at which an inventor customarily receives his or her mail and can be different from the residence address, the post office address must be stated clearly in the post office address section of the Oath/Declaration. If the post office address is the same as the residence address, it should be stated so in the post office address section of the Oath/Declaration. The post office address section must not be left blank. Therefore, the objection on the Oath/Declaration is still maintained and repeated above in this Office Action.

Regarding to the rejection to claim 1-7, the applicant mainly argues that Degura et al does not disclose step "determining transmitter type as a function of the detected chirp slope", as recited in claims 1 and 6. The examiner respectfully disagrees. See figure 12, Degura et al discloses devices (41, 42, 43), (41, 42, 45), and (41, 42, 47). These devices can be considered

here as separated transmitters for receiving digital signals (1N-1), (1N-2) and (1N-n), respectively for further transmitting, wherein it can be considered here that the types of transmitters are characterized or distinguished by chirp conversions (43), (45) and (47), respectively, for transmitting chirp signals of different slopes (44), (46) and (48), respectively. Further, see figure 13, Degura et al disclose device (54, 56, 58) for detecting the slope of the received signal wherein the detection includes chirp conversion means (54), (56) and (58) having reverse slopes corresponding to the conversions (43), (45) and (47), respectively; for instance, means (54) would output an output wave shape (see figure 3E) if means (54) detects a signal having slope (44), and so on, so that the (54, 56, 58) would further forward its output signal to a proper path for data recovery. Since the transmitters are distinguished by the respective chirp slopes (44), (46) and (48) of the chirp conversions (43), (45) and (47), respectively, the device (54, 56, 58) after detecting the slope of the received signal, inherently can recognize or determine from which transmitter the received signal has been transmitted so that the device (54, 56, 58) can further forward its output signal to a proper path corresponding to that transmitter's characteristic for data recovery. Based on that the above rationale, it can be considered here that Degura et al discloses (54, 56, 58) for the limitation "determining transmitter type as a function of the detected chirp slope".

Regarding to the rejection to claims 17 and 18, the applicant mainly argues that Degura et al does not disclose (i) plural types of receivers and transmitters for receiving and transmitting chirp signals, each type of receiver and transmitter receiving and transmitting a chirp signal of a different slope, and (ii) information is encoded by duration of the chirp signal. The examiner respectfully disagrees. With respect to part (i), with similar reasons set forth above for claims 1

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and 6, see figures 12 and 13, Degura et al discloses transmitter (41, 42, 43) and corresponding receiver (54, 60, 61) of a first type for transmitting and receiving a first chirp signal of a first predetermined slope (44), and he further discloses transmitter (41, 42, 45) and corresponding receiver (56, 60, 61) of a second type for transmitting and receiving a second chirp signal of a second predetermined slope (46). With respect to part (ii), Degura et al discloses that information "digital signal" inputted to terminal (1N-1) is encoded based on duration (T) of the first chirp signal in such a way that the information is encoded by the first chirp signal which is characterized by its duration (T), bandwidth (B) and slope (see col. 13, line 54 to col. 14, line 2).

Regarding to the rejection to claims 8-16, the applicant mainly argues that for claims 8 and 12, (i) it would not have been obvious for one skilled in the art to implement Degura et al such that the first frequency band would be the same as the second frequency band, and (ii) information is encoded by duration of the chirp signal. The examiner respectfully disagrees. With respect to part (i), Degura et al is silent about whether the first frequency band is the same as the second frequency band. However, it is well-recognized for one skilled in the art that in Degura et al, first predetermined frequency band could be the same as or different from the second predetermined frequency band as long as they are within the frequency operating band of means (49) (see figure 12). Therefore, it would have been obvious that the one skilled in the art, when building Degura et al, could implement such that first predetermined frequency band is the same as or different from the second predetermined frequency band, as desired or required by his system, as long as they are within the frequency operating band of means (49). With respect to part (ii), Degura et al disclosed the claimed limitation with similar reasons set forth above for claims 17 and 18 in part (ii).

Based on the above rationale, it is believed that the limitations of claims are still met and therefore, the rejections are still maintained.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 703-308-0158. The examiner can normally be reached on M-F (8:30-6:00) First Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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Primary Examiner

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**PHOUNG PHU
PRIMARY EXAMINER**